p1105: Factoring when $a = 1$ (v17)

Example: Factor $x^2 + 5x - 24$

Find two numbers whose product is -24 and whose sum is 5. Focus on finding factor pairs of -24. Eventually you consider 8 and -3 because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 - x - 56$

$$(x - 8)(x + 7)$$

2. Factor $x^2 - 5x - 6$

$$(x + 1)(x - 6)$$

3. Factor $x^2 + 11x + 18$

$$(x + 9)(x + 2)$$

4. Factor $x^2 - 5x - 24$

$$(x - 8)(x + 3)$$

5. Factor $x^2 - 4x - 5$

$$(x - 5)(x + 1)$$

6. Factor $x^2 - x - 30$

$$(x - 6)(x + 5)$$

7. Factor $x^2 - 7x - 18$

$$(x + 2)(x - 9)$$

8. Factor $x^2 + 4x - 12$

$(x - 2)(x + 6)$

9. Factor $x^2 - 2x - 15$

$(x + 3)(x - 5)$

10. Factor $x^2 + 5x + 6$

$(x + 3)(x + 2)$

11. Factor $x^2 - 11x + 30$

$(x - 6)(x - 5)$

12. Factor $x^2 + 16x + 63$

$(x + 7)(x + 9)$

13. Factor $x^2 - 6x + 8$

$(x - 2)(x - 4)$

14. Factor $x^2 - 2x - 3$

$(x + 1)(x - 3)$

15. Factor $x^2 - 2x - 8$

$(x + 2)(x - 4)$